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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,312	10/02/2002	Hideaki Takahashi	SIMTEK6469	7690

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EXAMINER

COMAS, YAHVEH

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,312

Examiner

Yahveh Comas

Applicant(s)

TAKAHASHI, HIDEAKI

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 17-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "75" has been used to designate both "coil winding" and "pole teeth". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1,4-9 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ono et al. JP Patent No. 02254954.

Ono disclose a motor having a magnetic field detecting element for detecting the position of the core (3) comprising a rotor with permanent magnets and a stator core (3) comprising a plurality of teeth surrounded by coil winding and defining slots therebetween. The stator core is divided into an upper core (3a) and a lower core (3b) in the direction of the rotary shaft in such way that the division have different cogging torque and end each cogging torque are cancelled mutually whereby the cogging torque of the whole of the motor may be reduced. Ono doesn't

disclose the relation of the assembly is determined by the least common multiple of the number of said magnets and the number of slots.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ono's invention and made the relation between the assembly to be determined by the least common multiple of the number of said magnets and the number of slots, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Therefor is obvious to determine the relation of the assembly by the least common multiple of the number of said magnets and the number of slots.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2-3, 10-11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. JP Patent No. 02254954 in view of Li U.S. Patent No. 6,278,216.

Ono disclose the claimed invention except for the cogging canceling device is selective operable for selectively generating its cogging torque and operable only at a lower speed of relative rotation of the primary device. However, Li disclose the use of motor with the number of the T-teeth being not a common multiple of the number of the magnets so that vibration and cogging torque can be minimized during rotary motion of the rotor relative to the stator and also disclose a alternate form of his invention where the motor have a pair of stators (4 and 4') and a

MPU that detect the value of current and activated a second motor when there is a change in current for the purpose of eliminating a starting dead angle and a cogging torque.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to Modify Ono's invention and provide the motor with a circuit capable of activate the second stator as the moment of detecting a signal as a effect of a low speed for the purpose of eliminating a starting dead angle and cogging torque.

6. Claim 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. JP Patent No. 02254954 in view of Vranish U.S. Patent No. 5,103,941.

Ono disclose the claimed invention except for the cogging canceling device generate the canceling cogging torque mechanically. However, Vranish disclose a roller locking/lifting ring including respective V-shaped locking cam surface segments for each locking roller that is in the form of a truncated cone and provides a force and torque reaction surface for forces and torques generated in the braking process.

It would have been obvious to one having skill in the art at the time the invention was made to modify Ono's invention and provide a cam surface with V-shape for the purpose of provide a force and a torque reaction surface for the generation of torques.

Allowable Subject Matter

7. Claim 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yahveh Comas whose telephone number is (703) 305-3419. The examiner can normally be reached on M - F 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 308-0956 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

YC
June 30, 2003



PRIMARY EXAMINER
KARL TAMAI